


SECTION 1 – IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

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| Product Name | Ken-Ester LV 680 Selective Herbicide |
| Company Name | Kenso Corporation (M) Sdn Bhd |
| Address | 2 Bond Crescent, Forrest Hill, Auckland 0620 New Zealand |
| Telephone | 0800 536 766 |
| Hazardous Substances | |
| Emergency Telephone | 0800 CHEMCALL (0800 243 622) (24 hours) |
| National Poisons Centre | 0800 POISON (0800 764 766) (24 hours) |
| Use | For broadleaf weed control in pasture and turf. |

SECTION 2 – HAZARDS IDENTIFICATION

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| Hazard Pictograms |  |
| GHS Signal Word | DANGER |
| Hazard Statement | <p>H302: Harmful if swallowed.</p> <p>H317: May cause an allergic skin reaction.</p> <p>H372: Causes damage to organs through prolonged or repeated exposure.</p> <p>H400: Very toxic to aquatic life.</p> <p>H410: Very toxic to aquatic life with long lasting effects.</p> |
| Prevention | <p>P102: Keep out of reach of children.</p> <p>P103: Read label before use.</p> <p>P260: Do not breathe dust/fume/gas/mist/ vapours/spray.</p> <p>P264: Wash contacted areas thoroughly after handling.</p> <p>P270: Do not eat, drink or smoke when using this product.</p> <p>P272: Contaminated work clothing should not be allowed out of the workplace.</p> <p>P273: Avoid release to the environment.</p> <p>P280: Wear protective gloves/protective clothing/eye protection/face protection.</p> |
| Response | <p>P101: If medical advice is needed, have product container or label at hand.</p> <p>P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P302 + P352: IF ON SKIN: Wash with plenty of soap and water.</p> <p>P314: Get medical advice/attention if you feel unwell.</p> <p>P321: Specific treatment (see FIRST AID on this label).</p> <p>P330: Rinse mouth.</p> <p>P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.</p> <p>P363: Wash contaminated clothing before reuse.</p> <p>P391: Collect spillage.</p> |
| Disposal | P501: Dispose of contents/container as specified on the registered label. |

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients | CAS No | Proportion |
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| 2,4-D (present as the ethyl-hexyl ester) | 1928-43-4 | 68% w/v |
| Inert ingredients | secret | To 100% w/v |

SECTION 4 – FIRST AID MEASURES

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| Ingestion | If swallowed, do not induce vomiting; seek medical advice immediately. |
| Eyes | Flush eyes immediately with plenty of fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. However, if irritation persists, seeks immediate medical advice. |
| Skin | Remove contaminated clothing, wash skin with plenty of soap and water. Seek immediate medical advice if any signs or symptoms described in this document occur. Discard contaminated non-waterproof shoes and boots. Wash contaminated clothing before re-wearing. |
| Inhalation | Give artificial respiration or oxygen if breathing is shallow or stopped. Get medical attention immediately. Otherwise remove to fresh air until recovered |

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| Advice to Doctor | See a doctor if discomfort or irritation continues. Treat symptomatically. |
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SECTION 5 – FIRE FIGHTING MEASURES

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| Fire/Explosion Hazard | This product is classified as a C1 combustible product. There is little risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures. |
| HAZCHEM Code | 2X |
| IER Guide No | 47 |
| Extinguishing Media | Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog. |
| Fire Fighting Instructions | When fighting fires involving significant quantities of this product, wear a splash suit complete with self contained breathing apparatus. Do not scatter spilled material with high pressure water jets. |

SECTION 6 – ACCIDENTAL RELEASE MEASURES

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| Personal Precautions | For appropriate personal protective equipment (PPE), refer to section 8. |
| Spillage | Stop leak if safe to do so, and contain spill. Prevent spillage from entering drains or water courses. Absorb spillage with clay, sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recovery product into labelled containers for recycling or salvage, and dispose of promptly. After spills, wash area with a detergent based solution preventing runoff from entering drains. If a significant quantity of material enters drains, immediately advise regional council and emergency services. Ensure appropriate legality of disposal by consulting local authorities regulations prior to disposal. Do not dispose of undiluted chemicals or contaminated recovery materials on site. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to. |
| Environmental Precautions | The product is relatively toxic to fish and hence should be kept from entering water bodies. On-site disposal of concentrate or contaminated recovery materials is not acceptable. |

SECTION 7 – HANDLING AND STORAGE

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| Storage | Keep out of reach of children. Store in original container, tightly closed, away from animal and human foodstuffs and remedies, food packaging, seeds, fertilisers, fungicides and insecticides other Hazardous Substances of Classes 1, 4, & 5. Store in a secure, cool, dry, well ventilated place and protect from sunlight. |
| Handler Competence | Persons responsible for the storage, handling, mixing, applying or disposing of this product must be trained, experienced or supervised in accordance with requirements for class 6 and 9 substances of the Health and Safety at Work (Hazardous Substances) Regulations 2017 part 4.5 and the Hazardous Substances (Hazardous Property Controls) Notice 2017 Part 4 Subpart C. |
| Tracking Record Keeping | Not required. |
| Additional Requirements | Records of use/application must be kept. All aspects of storage, handling, use, disposal and record keeping must be in accordance with NZS 8409:2021 'Management of Agrichemicals', and relevant local and regional council plans. |

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

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| Workplace Exposure Standards | No exposure limits have been set for this product, however, a limit has been set for 2,4-D acid at 10mg/m ³ . |
| Engineering Controls | Natural ventilation only is required. In confined spaces where solvent vapour |

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| Personal Protection | build-up may make working unpleasant use a local exhaust. When mixing, applying or when likely to have any exposure to concentrate, mixes or mists/vapours suitable chemical resistant clothing must be worn including; coveralls, face shield, respiratory protection (organic vapour minimum specification) gauntlet gloves and boots/footwear. If product contacts skin, immediately wash area with soap and water. After each use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. Wash protective clothing before reuse. |
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SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

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| Form | Liquid |
| Colour | Clear brown |
| Odour | Solvent odour |
| pH | 3.6 in 5% solution |
| Flash point (°C) | NA |
| Flammability Limits | Upper ~6; Lower ~1 |
| Density (at 20°C) | 1.138 |
| Miscibility | Forms emulsion |
| Oxidising properties | Not oxidising |
| Explosive properties | Not explosive |

SECTION 10 – STABILITY AND REACTIVITY

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| Stability | This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties. |
| Incompatibility | Strong acids, strong bases, strong oxidising agents. |
| Decomposition | Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Hydrogen chloride gas, other compounds of chlorine. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death. |
| Polymerisation | This product will not undergo polymerisation reactions. |

SECTION 11 – TOXICOLOGICAL INFORMATION

This section describes effects which could occur if this product is not handled in accordance with this data sheet.

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| Acute Toxicity (Active Ingredient) | The acid form of 2,4-D is classified as “harmful”. The oral LD ₅₀ of 2,4-D ranges from 375 to 666 mg/kg in the rat, 370 mg/kg in mice, and from less than 320 to 1000 mg/kg in guinea pigs. The dermal LD ₅₀ values are 1500 mg/kg in rats and 1400 mg/kg in rabbits, respectively. In humans, prolonged breathing of 2,4-D causes coughing, burning, dizziness, and temporary loss of muscle coordination. Other symptoms of poisoning can be fatigue and weakness with possible nausea. On rare occasions following high levels of exposure, there can be inflammation of the nerve endings with muscular effects. |
| Sensitisation Effects | Not a sensitizer |
| Chronic Toxicity | Rats given high amounts, 50 mg/kg/day, of 2,4-D in the diet for 2 years showed no adverse effects. Dogs fed lower amounts in their food for 2 years died, probably because dogs do not excrete organic acids efficiently. A human given a total of 16.3 g in 32 days therapeutically, lapsed into a stupor and showed signs of incoordination, weak reflexes, and loss of bladder control. |
| Mutagenic Effects | 2,4-D has been very extensively tested and was found to be nonmutagenic in most systems. 2,4-D did not damage DNA in human lung cells. However, in one study, significant effects occurred in chromosomes in cultured human cells at low exposure levels. The data suggest that 2,4-D is not mutagenic or has low mutagenic potential. |
| Carcinogenic Effects | 2,4-D fed to rats for 2 years caused an increase in malignant tumours. Female mice given a single injection of 2,4-D developed cancer (reticulum-cell sarcomas). Another study in rodents shows a low incidence of brain tumours at moderate exposure levels (45 mg/kg/day) over a lifetime. However, a |

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| | <p>number of questions have been raised about the validity of this evidence and thus about the carcinogenic potential of 2,4-D. In humans, a variety of studies give conflicting results. Several studies suggest an association of 2,4-D exposure with cancer. An increased occurrence of non-Hodgkin's lymphoma was found among a Kansas and Nebraska farm population associated with the spraying of 2,4-D. Other studies done in New Zealand, Washington, New York, Australia, and on Vietnam veterans from the U.S. were all negative. There remains considerable controversy about the methods used in the various studies and their results. Thus, the carcinogenic status of 2,4-D is not clear.</p> |
| Reproductive Effects | <p>High levels of 2,4-D (about 50 mg/kg/day) administered orally to pregnant rats did not cause any adverse effects on birth weights or litter size. The evidence suggests that if 2,4-D causes reproductive effects in animals, this only occurs at very high doses. Thus reproductive problems associated with 2,4-D are unlikely in humans under normal circumstances.</p> |
| Teratogenic (Birth) Effects | <p>2,4-D may cause birth defects at high doses. Rats fed 150 mg/kg/day on days 6 to 15 of pregnancy had offspring with increased skeletal abnormalities, such as delayed bone development and wavy ribs. This suggests that 2,4-D exposure is unlikely to be teratogenic in humans at expected exposure levels.</p> |
| Systemic Effects | <p>None</p> |

SECTION 12 – ECOTOXICITY INFORMATION

This section describes effects which could occur if this material is not handled in accordance with this data sheet.

The following information is presented in respect of the active ingredient:

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| Ecotoxic Effects | <p>Effects on birds: 2,4-D is harmful to wildfowl and slightly to moderately toxic to birds. The LD₅₀ is 1000 mg/kg in mallards, 272 mg/kg in pheasants, and 668 mg/kg in quail and pigeons.</p> <p>Effects on aquatic organisms: Some formulations of 2,4-D are highly toxic to fish while others are less so. Limited studies indicate a half-life of less than 2 days in fish and oysters. Concentrations of 10 mg/L for 85 days did not adversely affect the survival of adult dungeness crabs. For immature crabs, the 96-hour LC₅₀ is greater than 10 mg/L, indicating that 2,4-D is only slightly toxic. Brown shrimp showed a small increase in mortality at exposures of 2 mg/L for 48 hours.</p> <p>Effects on other organisms: Moderate doses of 2,4-D severely impaired honeybees brood production. At lower levels of exposure, exposed bees lived significantly longer than the controls. The honeybee LD₅₀ is 0.0115 mg/bee.</p> |
| Environmental Fate | <p>Breakdown in soil and groundwater: 2,4-D has low soil persistence. The half-life in soil is less than 7 days. Soil microbes are primarily responsible for its disappearance.</p> <p>Breakdown in water: In aquatic environments, microorganisms readily degrade 2,4-D. Rates of breakdown increase with increased nutrients, sediment load, and dissolved organic carbon. Under oxygenated conditions the half-life is 1 week to several weeks.</p> <p>Breakdown in vegetation: 2,4-D interferes with normal plant growth processes. Uptake of the compound is through leaves, stems, and roots. Breakdown in plants is by a variety of biological and chemical pathways. 2,4-D is toxic to most broad leaf crops, especially cotton, tomatoes, beets, and fruit trees.</p> |

SECTION 13 – DISPOSAL CONSIDERATIONS

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| Product | <p>Dispose of this product only by using according to the label, or at an approved hazardous substances waste receival facility. On-site disposal of concentrate is not acceptable</p> |
| Container | <p>Triple rinse containers, add rinsate to the spray tank, then offer container for recycling/reconditioning (Agrecovery), or puncture top, sides and bottom and submit to a local authority waste receival facility (Transfer Station). DO NOT reuse this container for any other purpose.</p> |

SECTION 14 – TRANSPORT INFORMATION

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| Dangerous Goods | |
| UN Number | 3082 |
| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS 2,4-D ESTER) |
| Class | 9 |
| Subsidiary Class | None |
| Packaging Group | III |
| Additional Information | MARINE POLLUTANT |
| MTQ (Non-Commercial) | 250 L |

SECTION 15 – REGULATORY INFORMATION

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| HSNO Approval No | HSR000962 |
| ACVM Approval No | P008710 |

SECTION 16 – OTHER INFORMATION

This SDS contains only safety-related information. For other data see product literature.

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| Contact Points | |
| Police, Ambulance and Fire Service | 111 |
| National Poisons Information Centre | 0800 POISON (0800 764 766) |
| Hazardous Substances Emergency | 0800 CHEMCALL (0800 243 622) |